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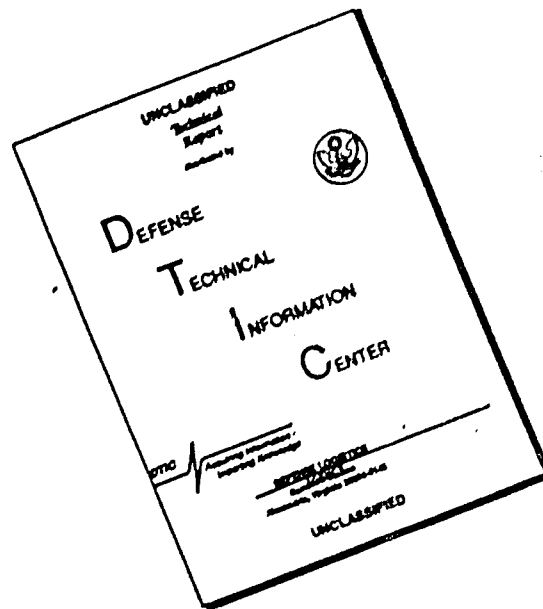
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DEPARTMENT OF THE ARMY  
HEADQUARTERS 588TH ENGINEER BATTALION (C) (A)  
APO 96216

EBB-3

15 May 1967

SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65) for Quarterly  
Period Ending 30 April 1967

THRU: Commanding Officer  
79th Engineer Group (Const)  
APO 96491

Commanding General  
USA Engineer Command Vietnam (Prov)  
ATTN: AVCC-P&O  
APO 96491

Commanding General  
United States Army, Vietnam  
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APO 96307

Commander in Chief  
United States Army, Pacific  
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TO: Assistant Chief of Staff for Force Development  
Department of the Army (ACSFOR DA),  
Washington, D. C. 20310

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*att: FyR-OT-RD*  
*Wash. D.C. 20310*

### Section 1. Significant Organization or Unit Activities

#### 1. GENERAL

a. The 588th Engineer Battalion (C)(A) operates under the 79th Engineer Group (Const). The headquarters was located at Cu Chi, Vietnam, in the base camp of the 25th Infantry Division until 19 April 1967. On that date the headquarters moved to Tay Ninh and located in the base camp there. During Operation Junction City from 18 February 1967 until the headquarters closed at Tay Ninh, a forward command post was maintained at that location. During Operation Manhattan, from

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23 April 1967 through the end of the quarter, a forward command post was maintained at Bao Don, Vietnam. The battalion was formally organized under TOE 5-35D throughout the quarter.

b. Company A was located at Cu Chi during the entire quarter. The company was attached to the 65th Engineer Battalion (Inf Div) for Operation Manhattan and was in the field from 23 April 1967 through the end of the quarter.

c. Company B was located at Tay Ninh during the entire quarter. The company moved to the field location near Bao Don for Operation Manhattan 23 April 1967 and remained there through the end of the quarter.

d. Company C was located at Dau Tieng during the entire quarter.

e. Company D (attached in anticipation of reorganization of the battalion under TOE 5-35E) arrived at Cu Chi 20 February 1967. The company moved to Tay Ninh 3 April 1967 and to the field location near Bao Don for Operation Manhattan 23 April 1967. It remained at Bao Don through the end of the quarter.

### (1) Alert and preparation for overseas movement.

(a) Company D was organized in May 1966 as Company D, 31st Engineer Battalion (C)(A) at Fort Bliss, Texas. At that time that battalion was alerted for movement during the first quarter of calendar year 1967. When originally brought up to strength, a large number of nondeployables were assigned to the company. These were replaced prior to movement and the company arrived in country five men short of 100% strength. The company started an eight week basic unit training program on 25 July 1966. The program included approximately one month of field training at Fort Hood consisting of bridge erection, range firing and qualification, a field training exercise, and a one week ATT. Upon return to Fort Bliss the company underwent POM training.

(b) Preparations for movement were begun 1 November 1966. Initial assigned E&D and PRD were 15 December 1966 and 3 January 1967 respectively. All radios, M-72's, 2 scooploaders, a 250 cfm air compressor, a 5 ton tractor, a 25 ton trailer and a few smaller TOE items were missing. These were requisitioned on a priority O&M basis. A POM check was made on all TOE equipment 15-16 December, and necessary maintenance was begun immediately. Given the assigned readiness dates, the POM check was scheduled late. Equipment in maintenance could not be packed and lead time on some parts requisitions was 30 days; nevertheless all organizational equipment was packed 15 December and passed the POM inspection 16 December.

(c) On 5 December 1966 word was received that the 31st Engineer Battalion would not be moved as a unit but that the line companies would proceed separately. Personnel and some equipment shortages were made up with resources of the headquarters company. The battalion WABTOC was broken down into company sized packages for shipment.

### (2) Overseas movement.

(a) Organizational equipment was shipped to Beaumont, Texas, 20 December 1966 accompanied by one officer. Red circle TAT was shipped to Oakland, California. 12 January 1967 for movement on the USNS Barret.

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(b) The advance party left El Paso, Texas, 10 February for Travis Air Force Base and arrived in Cu Chi Vietnam on 13 February. Crypto equipment and escort personnel were transported from El Paso to Oakland by commercial airlines 30 January. The remainder of the company traveled to Oakland 31 January. The main body closed at Cu Chi 20 February 1967.

f. Company B, 86th Engineer Battalion (C)(A) was attached through 15 March 1967. The company was located at Cu Chi until 18 February 1967. On that date the company moved to Trai Bi in support of Operation Junction City. The company moved from Trai Bi to Phu Loi to join the 86th Engineer Battalion 13-15 March 1967.

g. 67th Engineer Company (DT) was attached through 20 April 1967. The headquarters was located at Tay Ninh until this date. One platoon was located at Cu Chi from 1 through 17 February and a section at Dau Tieng until 20 April. Two sections were attached to Company D, 86th Engineer Battalion at Tan An 1 April. On 12 April the company was alerted for movement to Bearcat and assignment to the 34th Engineer Group. The main body departed Tay Ninh 17 April. Final elements and the sections at Dau Tieng moved 20 April. Since the company arrived in country during the last 15 days of the previous quarter, the record of its deployment is included in this report.

### (1) Alert and preparation for overseas movement:

(a) General. The 67th Engineer Company (DT) was activated on 1 July 1966 by Third US Army General Orders Number 226, dated 6 June 1966. The unit was established under TCE 5-124E with an authorized strength of 3 Commissioned Officers, 1 Warrant Officer and 108 enlisted personnel. The unit was assigned to the Third US Army attached to Fort Campbell, Kentucky and the 931st Engineer Group (C). The company was alerted for overseas movement and assigned a Personnel On-Station date (POSD) of 1 September 1966, a Personnel Readiness Date (PRD) of 15 December 1966, and an Equipment Readiness Date (ERD) of 1 December 1966.

(b) Personnel. On 1 September 1966 (POSD), the company had 75% of authorized strength which consisted of 3 Commissioned Officers and 81 enlisted men. The fourth Officer joined the company on 2 September 1966, but several NCO positions remained unfilled until late in the month. These included both platoon sergeants and several squad leaders. There was one critical personnel shortage; that of Maintenance Warrant Officer, 0663. On 17 November 1966 the DA Personnel Management Team advised the unit commander that there is a world shortage of this skill and that Lieutenants would be used as authorized substitutes. On 15 December 1966 (PRD) all authorized positions had been filled and the MOS and grade structure of assigned personnel were generally compatible with those authorized by TCE.

(c) Training - After its alert notification for impending overseas movement the unit embarked on an intensive eight week training period beginning 1 September 1966 and terminating with an Operational Readiness Test (ORT) conducted by the 931st Engineer Group (Combat) during the period 24-28 October 1966. The unit received an overall rating of "Combat Ready" and no training deficiencies were cited. The majority of the unit completed PCM training requirements and also completed specialized Vietnamese training to include the Viet Cong Village. Those who were not present for the specialized instruction during the regular training schedule were able to receive the required training through appropriate make-up periods.

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(d) Upon successful completion of the ORT the time remaining before the scheduled packing date was devoted to vehicle familiarization and equipment maintenance. Selected personnel received specialized training in such fields as radio operation and procedure, multi-fueled engines, wrecker operation, generator operation and various supply functions. On 15 November 1966 the first group of men received their POM leave while the remaining personnel began the task of preparing the equipment for overseas shipment.

### (2) Overseas movement:

(a) No major logistical problems were encountered. Although there were some substitute items (wrecker, welder) all necessary equipment was on hand and the company deployed with 100% of its authorized equipment. PLL was at 90% fill with 26 lines at zero balance.

(b) The main body of the unit departed from Fort Campbell by commercial airlines to Oakland, California, 27 December 1966. The unit embarked on the USNS Darby, sailed from the United States on 28 December 1966, arrived at Cu Chi, Vietnam, on 17 January 1967. The unit's equipment also arrived on 17 January, allowing the Company to be operational within a few days.

h. The 362d Engineer Company (LE) was attached throughout the entire quarter. The headquarters was located at Cu Chi until 10 March 1967. On that date it moved to Tay Ninh. The company moved to the field location near Bao Don for Operation Manhattan 23 April 1967. One platoon remained at Cu Chi until 18 April and another at Dau Tieng throughout the quarter. Elements of the company were at the rock quarry and crushing site at Nui Ba Den during the entire reporting period.

i. One platoon, 100th Engineer Company (FB) This platoon was located at Cu Chi and assisted the S-4 section in hauling construction supplies from Saigon to Cu Chi until its release from attachment 15 April 1967.

j. The present organization chart of the battalion is included as inclosure 1.

### 2. COMMAND:

a. The 588th Engineer Battalion was commanded during the entire reporting period by LTC James F. Boylan. The sergeant-major was SGM Edward J. Kirby.

b. Headquarters Company was commanded by CPT J. Gardner Zerby until 3 March 1967. On that date command was assumed by CPT James A. Chaffers.

c. Company A was commanded by CPT John B. Kidd until 15 April 1967. On that date command was assumed by CPT Thomas J. Ford Jr.

d. Company B was commanded by CPT Joseph F. Manzi Jr. until 5 February 1967. On that date command was assumed by CPT Stephen A. Melton.

e. Company C was commanded by CPT Arthur S. Kubo until 18 February 1967. On that date command was assumed by CPT Robert T. Howard.

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f. Company B was commanded during the entire reporting period by CPT Gary J. Marchand.

g. Company B, 86th Engineer Battalion (C) (A), attached through 15 March 1967 was commanded during the period of attachment by CPT Allen D. Gezelman.

h. The 67th Engineer Company (DT), attached through 20 April 1967 was commanded during the period of attachment by CPT Richard T. Robert.

i. The 362d Engineer Company (LE), attached during the entire reporting period, was commanded by CPT James L. Coggins until 1 April 1967. On that date command was assumed by CPT Andrew B. Seidel.

### 3. PERSONNEL, ADMINISTRATION, MORALE, AND DISCIPLINE

a. The overall personnel picture for the battalion brightened during the quarter as the unit went from 96% to 110% of authorized strength. The increase was brought about by two changes. First, by the end of the quarter the 100th Float Bridge Company Platoon, B Company of 86th Engineer Battalion and 67th Engineer Company (DT) which had been attached were released from attachment. Also during the quarter we gained our own D Company, newly arrived in-country. The total effect of these changes was to reduce our authorized strength. Secondly we benefited from an operation "FULE" from the 15th Engineers of the 9th Infantry Division, in that we received many replacements who already had been in country six months. This will cause a high number of rotations in September and October, but has increased our strength at present.

b. The officer strength picture is not as favorable. We presently are authorized 33 officers and WO and have 31. There are 4 losses the next month with no replacements programmed.

c. The administrative section was given more supervision during this quarter since there was no adjutant for a period of time before the present incumbent arrived. The regulations and reports of the battalion were updated and revised during this period as was the suspense system for keeping track of recurring reports. Concurrent with the move to Tay Ninh the message center operation was centralized and responsibility assigned to one EM which greatly improved the efficiency of this section. A daily courier for the battalion is attached from HHC to A Company at Cu Chi. This courier makes a daily flight to and from 79th Engineer Group at Long Binh, forwards distribution to Battalion Headquarters and C Company on the afternoon courier run and picks up outgoing distribution the next day. This courier also picks up any mail which comes in at Cu Chi for the Battalion, thereby eliminating at least one day of transit for this mail.

d. The battalion mail room is separated from the remainder of the headquarters in Tay Ninh as opposed to the way it was organized in Cu Chi where you had to go through the message center to reach the mail room. Mail service at Tay Ninh averages 4 to 5 days from the States. Postal service at the APO is good; however, they run out of stamps occasionally.

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Mail to our forward elements is taken out daily with the ration run in the afternoon. Mail to remote units is airlifted whenever possible.

e. The battalion had two special courts-martials during the period, both were marijuana cases. There were a total of 47 Article 15's given during the period and no Summary or General Courts-Martials. The status of morale in the battalion remained high during the period as was evidenced by the military manner in which the units moved out and set up for Operation Manhattan immediately after moving from one base camp to another.

f. During their respective periods of attachment Company B, 36th Engineer Battalion; the 67th Engineer Company (DT); and the 362d Engineer Company (LE) each provided one pay clerk to work with the battalion personnel section. Other comments above apply to all these units as well as this battalion.

### 4. INTELLIGENCE AND COUNTERINTELLIGENCE

a. This headquarters receives daily intelligence summaries from the 25th Infantry Division, terrain studies and intelligence summaries from Second Field Force Vietnam, and weekly intelligence reviews from headquarters, United States Army Vietnam on a regular basis.

b. Intelligence concerning standby engineer missions has come through the 25th Infantry Division. Information on engineer effort required to maintain roads was gathered by aerial and ground reconnaissance by elements of the division and relayed to this headquarters each morning. On the basis of these reports engineer effort was dispatched. This headquarters gathered engineer intelligence on specific mission such as new roads and aircraft parking areas by detailed ground reconnaissance of each project site.

c. Throughout the quarter a continuing search has been made for sand suitable for use in concrete and good quality laterite.

(1) Sand: Assistance was requested of the 79th Engineer Group in locating sand in the Tay Ninh area. On 1 March 1967 a reconnaissance team of the 579th Engineer Detachment (Terrain) made a field investigation during the period 5 - 7 April 1967. As a result of this effort, sand sources were found which, if washed, could be used in concrete. Results of the survey including technical descriptions of the deposits and overlays showing their locations reached this headquarters 22 April 1967. Company C conducted a search for sand in the Dau Tieng area during the month of February. A useable source was located in the Saigon River bed and extraction began the first week in March.

(2) Laterite: Throughout the quarter a continuous search has been made to locate sources of laterite convenient to horizontal project sites. S-2 and line company teams have made initial searches by investigating craters, Vietnamese wells, and by drilling with an earth auger. Promising deposits have been fully investigated by committing dozers for thorough exploration.

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d. A request that aerial photographs be taken monthly of the Tay Ninh area for making current mosaics with which to keep up with construction in the entire area for reporting purposes was made to 79th Engineer Group during the period. This effort would have produced a nice-to-have progress record but the request could not be filled due to commitment of aircraft on higher priority missions.

e. The S-2 officer conducted a reconnaissance of the proposed Saigon bypass road from Cu Chi to Phu Cuong with personnel of the 554th Engineer Battalion (Construction) 14 April 1967 in preparation for assumption of the road construction mission by that unit.

f. A reconnaissance of Routes 19, 26, and 239 was made from 23 April 1967 through the end of this quarter in preparation for anticipated missions of Operation Manhattan.

g. There have been no intelligence activities concerning the attached companies alone. They have participated in gathering of, and have been the recipient of intelligence along with units of this battalion.

### 5. PLANS, OPERATIONS, AND TRAINING

#### a. Base Construction Support

(1) Summary: At the beginning of this quarter the largest portion of the effort (55-60%) of the 588th Engineer Battalion was committed to projects in this category. As of 1 February 1967, the following projects were in progress:

(a) Cu Chi, Vietnam Area (projects assumed by the 554th Engineer Battalion 20 April 1967).

1. Cantonment for 17,093 men (CD 66-252DC-79, numbers refer to project directives issued to this headquarters by the 79th Engineer Group). This project provides for the base camp of the 25th Infantry Division and supporting organizations. It is an open end project in the sense that many of the component scopes are determined by the needs of the using unit and fluctuate widely. Others (most of the vertical construction) are predetermined based upon the number of men served. Much of the work is accomplished on a self help basis, either by effort of the divisional engineer battalion or by that of using units themselves under engineer supervision. This headquarters estimates that as of the beginning of this quarter the project was 51% complete based upon the then programmed requirements.

2. 25th Infantry Division Headquarters (CD66-85DC-79). Approximately 32,000 square feet of space was constructed for this facility prior to 1 February 1967. The project remained at 94% complete throughout the quarter. Electrical wiring installation remained to be completed but due to shortages and higher priorities assigned to other projects, effort was not committed to this project during this period. An interim electrical system remained in use through 20 April 1967.

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3. Dial Central Facilities (CD 66-92C-79). This project provided a 40' x 60' building to be used for a dial central exchange. It was 5% complete 1 February 1967.

4. 400 Bed hospital (CD 66-176DC-79, 12th Evacuation Hospital). This project provides for 75,080 square feet of hospital buildings, wards, services, and quarters for personnel. The project was 74% complete 1 February 1967.

5. Well water fill points (CD 12-202-01-T-MA). This project provided for a 21,000 gallon water storage facility and four fill points adjacent to a contractor-drilled deep well. The project was 3% complete 1 February 1967.

6. Air Defense site, Hoc Non (CD 65-53C-79). The facility was 95% complete 1 February 1967.

### (b) Tay Ninh, Vietnam, area:

1. Cantonment for 4,002 men (CD 66-171DC-79). This project provides for the base camp of the 196th Light Infantry Brigade and supporting organizations. It is an open end one similar to the cantonment at Cu Chi. It is estimated that at the beginning of the quarter the project was 35% complete based upon the programmed requirements as of 1 February 1967.

2. MUST Hospital (CD 66-212DC-79). This project provides for 20,040 square feet of service buildings and quarters for personnel and 6,700 square yards of hardstands upon which the rubberized, inflatable hospital buildings are placed. The project was 60% complete 1 February 1967.

3. Rock quarry and crusher site, Mui Ba Den (Gp 66-16DC-79). The facility was in operation during the entire quarter.

4. POL facility (Gp 66-24DC-79). The project provides for 9,000 bbl of POL storage. The facility was 90% complete and operational 1 February 1967.

### (c) Dau Tieng, Vietnam, area:

Field cantonment for 4,500 men (CD 12-203-01-T-6S). This project provides for the base camp of the 3rd Brigade, 4th Infantry Division. It is an open end one similar to those at Cu Chi and Tay Ninh. It is estimated that at the beginning of this quarter, the project was 14% complete based upon the programmed requirements as of 1 February 1967.

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(2) Progress: That made during the quarter 1 February 1967 through 30 April 1967 is indicated:

### (a) Cu Chi Area:

#### 1. 17,093 man contention:

a. Company A constructed 14,800 square feet of mess halls and scullery buildings; 5,840 square feet of administration buildings; 720 square feet of latrines and showers; 13,940 square yards of hardstands; 1350 square feet of maintenance buildings; and 7,715 square yards of roads during the quarter.

b. Company D cleared and filled 11 acres, placed four wooden artillery firing pads, each 36' x 48', and constructed 720 square feet of latrines and showers from 26 March through 11 April 1967.

c. The 362d Engineer Company (LE) provided equipment support to the construction effort throughout the quarter. In addition the company applied 205,700 gallons of dust control agents and cleared, filled, shaped, and drained 25,100 square yards of open storage areas. The latter included work in the Class V storage area for which 42,800 cubic yards of fill was hauled for protective berms.

2. Dial central facilities: Company A constructed the 2,400 square foot building during the quarter. The building is a 40 foot clear span, wood frame structure. 6,285 square feet of fiberglass insulation and vapor barrier were installed and exterior and interior walls and ceiling were covered with plywood. Material shortages such as bolts for trusses delayed progress somewhat. As of 20 April 1967 the project was 87% complete.

3. 400 bed hospital: Company A constructed 630 square feet of latrines and showers buildings, three 12 foot high water towers, and 3,360 square feet of covered walkways. The standard design mess hall of 10,860 square feet was begun: 4,200 square feet of concrete slab was placed and the roof trusses were prefabricated. The project was 84% complete 20 April 1967.

4. Well water fill points: Company B, 86th Engineer Battalion began this project just before the beginning of the quarter. It completed a standard wooden tower 36 feet in height and 2,500 square yards of access roads prior to deploying to Trai on 20 February 1967. The project was assumed by Company D after its arrival at Cu Chi 20 February 1967. That unit decked the tower, erected a 21,000 gallon bolted steel tank atop the tower, and installed 600 feet of piping and four fill stands. The project was completed 22 March 1967 and became operational soon thereafter with the installation of an erdlater in lieu of an in line chlorinator which was unavailable between the contractor drilled well and the tank.

#### 5. Air defense site. Moc Mon:

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Materials were issued during the quarter for 3,000 square feet of troop billets, a water storage tank, and 2,400 square feet of generator sheds to be constructed on a self help basis. The project was essentially complete 20 April 1967.

6. Laterite pit: The 362d Engineer Company (LE) operated a laterite pit at Cu Chi during the quarter. 113,000 cubic yards were extracted during this time.

### (b) Tay Ninh Area

#### 1. 4,0002 Man Contonments:

a. Company B, utilizing a batch plant and a prefabrication yard, constructed 74,600 square feet of mess halls and 4,600 square feet of administration buildings during the quarter. The unit also constructed 15,400 square yards of roads and issued prefabricated building sections for 7,680 square feet of troop billets.

b. The 67th Engineer Company (DT) supported construction effort in the base camp as required during the quarter.

c. The 362d Engineer Company (LE) supported construction effort with equipment. In addition the company applied 271,800 gallons of dust control agents within the contonment during the quarter.

d. As of the end of the quarter it is estimated that the scope of the project had increased 15% and that it was 48% complete based on the increased scope.

2. MUST Hospital: During April 1967 the site was entirely resurveyed. Drainage and site plans were prepared in preparation to begin phase II of the project: Billets and storage facilities.

3. Rock quarry and crushing site: The 362d Engineer Company (LE) operated the facility during the quarter. 3,280 cubic yards of 1½" minus rock and 1,730 cubic yards of 3" minus rock were crushed and 2,970 cubic yards of 1½" minus rock and 970 cubic yards of 3" minus rock were issued during the quarter. Capacity was augmented by elements of the 554th Engineer Battalion during the last week of the quarter.

4. POL facility: Three bolted steel storage tanks each of 3,000 barrel capacity were erected prior to the beginning of this quarter. During February 1967, 1,200 feet of ancillary piping was installed to complete the project.

5. Laterite pit: Company B and the 362d Engineer Company (LE) operated laterite pits in the area. During the quarter 171,725 cubic yards were extracted.

### (c) Dau Tieng Area

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1. 4,500 Man Cantonment: Company C, supported by a platoon of the 362d Engineer Company (LE), constructed 16,900 square feet of mess halls, 580 square feet of latrines and showers, 1,800 square feet of dispensary, 3,800 square feet of administration buildings, and 2,340 square feet of community facilities during the quarter. Horizontal work completed included 18,200 square yards of hardstands and 27,370 square yards of roads. 231,100 gallons of dust control agents were applied.

2. Laterite pit: Company C, supported by a platoon of the 362d Engineer Company (LE) operated a laterite pit in support of construction effort. 80,090 cubic yards were extracted during the quarter.

3. Sand haul from Saigon River: A sand source useable in concrete was found in the river bed during March 1967. Company C extracted 950 cubic yards and sifted 680 cubic yards during March and April.

(c) Recapitulation: During this quarter this battalion and its attached units constructed 135,310 square feet of vertical work and 97,725 square yards of horizontal work within base camps. During March and April successively larger portions of effort were diverted into operational support and LOC maintenance missions. During the last week of the quarter only 31% of the available effort was committed to base construction support.

### b. Operational Support and LOC Maintenance

(1) Summary: An average of 30 to 40 percent of the available effort was committed to missions in these categories until the last week in the quarter, when the figure increased. Most of the effort was in support of Operation Junction City. The following missions were assigned:

(a) Bridge removal Route QL-1: Remove remaining portions of destroyed concrete bridge without damaging existing piers and abutments and clear debris from around existing piers via XT 712071. Mission execution was in progress from 13 February through 16 February 1967.

(b) Operation Junction City: Provide direct engineer support to the 25th Infantry Division. Missions included road, airfield, and forward support area construction and maintenance in the Tay Ninh-Trai Bi area and MSR maintenance between Cu Chi, Tay Ninh, and Day Tieng. Specific missions included the following:

#### 1. Tay Ninh Road Network:

2. Upgrade bypass road from Route 13 to Route 22 to all weather capability.

b. Clear, cut, and shape a fair weather bypass road from Route 22 to Route 4; upgrade to all weather capability if resources permit.

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c. Upgrade and perform general road maintenance of Route 22 from intersection of the road with access road described in paragraph 56 (1) (b) 1 a to Trail B1. ✓

d. Perform general road maintenance and repair of Route 4 from Tay Ninh to the vicinity of Nui Ba Don Mountain.

### 2. Trail B1 forward support area:

a. C-130 facility: Construct surfaced parking area and ramps and regrade shoulders, recut drainage ditches, and roll surface of airfield.

b. OH-47 facility: Prepare a landing and parking area.

c. Huey facility: Prepare landing and staging areas.

d. Roads: Cut and shape access roads as necessary.

e. Dust control: Apply dust palliative to above areas as necessary.

3. Routes 1 and 22 between Cu Chi and bridge vic XT 298362 and Routes 26 and 239 between Tay Ninh and Dau Tieng.

4. Mission execution in progress 17 February through 22 April 1967.

(c) Operation Manhattan: Clearing and road upgrading as required. Mission execution in progress from 23 April through the end of the period.

### (2) Execution:

(a) Bridge removal Route QL-1: One platoon of Company B, 86th Engineer Battalion with attached heavy equipment worked out of the base camp at Cu Chi conveying to and from the bridge site daily to clear the abutments and piers. Fifteen tons of damaged steel beams and forty cubic yards of reinforced concrete bridge roadway rubble were removed from the gap near the piers.

(b) Operation Junction City: Missions were accomplished at various locations as assigned. Base construction effort continued at Cu Chi, Tay Ninh, and Dau Tieng during the operation.

1. Tay Ninh Road network: Accomplished by Company B and one platoon of Company D, 588th Engineer Battalion; Company B, 86th Engineer Battalion; the 67th Engineer Company (DT); and the 362d Engineer Company (LE).

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a. The bypass road from Route 13 to Route 22 was cut and shaped prior to the beginning of the operation. It was upgraded to all weather capability by capping with a six inch lift of compacted laterite. Approximately 1,500 cubic yards of laterite were hauled for this project. The road was open to traffic during the entire operation.

b. The bypass road from Route 22 to Route 4 was cut and shaped using dozers and graders. Initially no fill was hauled except for culverts and bridge abutments. A one lane cross 60 timber trestle bridge of three bays and 110 feet overall length was constructed vic XT 203561. A double bay culvert was placed vic XT 127552.

c. Route 22 from vic XT 167545 through Trai Bi forward support area was upgraded by clearing, widening, filling, and regarding the existing road where necessary. Mine trees were cleared of logs and mines to widen the road between XT 097763 and XT 11777. Ambush sites were eliminated by burning foliage along Route 22 between XT 120680 and XT 133630. The mission eventually included work on Route 247: 33 feet of 60 inch culvert was placed vic XT 123761.

d. Route 4 was upgraded by extensive clearing along the shoulders and filling and regarding where necessary from Tay Ninh to vic XT 285618. 80 feet of 40" and 120 feet of 24" culvert were installed.

e. Initial work was completed 15 March 1967. Work continued afterwards upgrading the bypass road between Routes 22 and 4 to all weather capability and maintaining the entire network. Only the portion of the bypass between XT 225564 and XT 203560 was upgraded.

2. Trai Bi forward support area: Accomplished by Company B, 86th Engineer Battalion.

a. Aircraft facilities provided included 10,800 square yards of C-130 parking area cleared, filled, shaped, and surfaced with M8A1 matting; C-130 runway surface rolled, shoulders graded, and drainage ditches recut. 44,500 square yards of CH-47 landing and parking area were cleared and peneprimed. 106,000 square yards of Huey landing and staging areas were cleared and peneprimed.

b. Roads: Wheeled access roads were provided by cutting and shaping entry roads into encampment and landing areas.

c. Laterite pits: 3,990 cubic yards extracted from pit opened vic XT 115575, 10,000 cubic yards extracted from pit opened vic XT 155763, and 2,000 cubic yards rock laterite hauled from stockpile vic XT 097763, were used on the mission.

d. Dust suppression: 216,600 gallons of diesel and 16,930 gallons of peneprime were applied to 691,400 square yards of roads and aircraft landing areas.

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c. Explosive ordnance disposal: In clearing operations 335 items were destroyed.

### 3. FSR maintenance:

a. Cu Chi to bridge vic XT 298326: Company A 588th Engineer Battalion maintained a stand-by platoon for repairs as necessary during the period 24 February 1967 through 18 March 1967. Both shoulders of Route 1 between Cu Chi and Trang Bang were cleared of mines once during the period. Mission reassumed by the 588th Engineer Battalion (Div) 19 March 1967.

### b. Tay Ninh to Dau Tieng:

Effort expended on this project 17 February 1967 through 25 March 1967 included placing 220 ft of 60 inch culvert vic XT 351441 and filling the road with laterite where necessary. Approximately 12,000 cubic yards of laterite were placed on the road during this period. Company B, 86th Engineer Battalion and the 67th Engineer Company (DT) contributed effort to this mission. Concentrated effort on upgrading Route 239 from Dau Tieng to intersection vic XT 372424 began 25 March 1967. An estimated 150,000 square yards of road surface required major upgrading effort. As of 22 April 1967 when the mission became a part of Operation Manhattan, 123,750 square yards of the roadway had been upgraded including 8,300 square yards requiring extensive subgrade repair. Approximately 45,000 cubic yards of subgrade fill and 14,000 cubic yards of laterite were used in the project. The mission was accomplished by Company C, 588th Engineer Battalion with support from elements of the 4th Engineer Battalion.

4. Equipment used on Operation Junction City included organizational vehicles and equipment of the 588th Engineer Battalion, the 67th Engineer Company (DT), the 362d Engineer Company (LE), and one platoon of the 100th Engineer Company (FB).

(c) Operation Manhattan: Initially Headquarters, Company B, Company D, and the 362d Engineer Company (LE) moved to a field location near Pao Don to provide engineer support to the 3d Brigade 4th Infantry Division. Company A was attached to the 65th Engineer Battalion and moved to the field with that unit. The operation remained in progress at the end of the quarter.

(3) Recapitulation: During the quarter the battalion and its attached companies expended 120 company days on operational support and LOC maintenance missions. One was expended on the bridge removal on Route 1, 92 were expended on Operation Junction City, and 27 were expended on Operation Manhattan in progress at the end of the quarter.

### a. Training:

(1) The training program previously designed to orient newly arrived personnel on operations in Vietnam was implemented during the quarter.

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The program consists of 20 hours of instruction usually presented during a four day period. Battalion history, friendly and enemy forces, hygiene, and lessons learned are covered. The course was presented to Company D after arrival and to replacements in groups of 20 or 30.

(2) Prior to the beginning of Operation Manhattan, a 3 day training program was conducted to train personnel on tunnel destruction techniques, basic counterambush tactics, mines and booby traps, and to zero and test fire weapons. The program was conducted by each company separately, utilizing personnel formally trained in these subjects.

### 6. LOGISTICS

a. While the battalion was at Cu Chi all classes of supply except construction materials were requisitioned through the 25th Infantry Division. Since 20 April 1967 they have been requisitioned through the 228th Supply and Service Company at Tay Ninh.

b. Construction materials were requisitioned through Pacific Architects and Engineers in Saigon for projects in the Cu Chi area. These materials were requisitioned through the 228th SC Company for Tay Ninh. Materials for Dau Tieng were received both from the PA&E supply yard in Saigon and from Tay Ninh. Requirements for construction materials are estimated in the S-2/3 section and requisitioned by the S-4 after approval by 79th Engineer Group.

c. Materials for operational support missions have been requisitioned through the 228th SC Company at Tay Ninh during this quarter.

d. Shortages included 2X lumber during February and hardware such as machine bolts throughout the quarter. Shortages were not critical but some projects were delayed.

### 7. FORCE DEVELOPMENT: None.

### 8. COMMAND MANAGEMENT

a. Projects and missions assigned to the 588th Engineer Battalion are overseen by the S-3 officer. Both the S-2 and the S-3 section are used together in planning and management. Equipment resources of line and attached companies are allocated on a daily basis to insure efficient utilization. Task assignments falling into the LOC maintenance and operational support categories are managed on a straight forward day to day basis, while those in the base construction category are managed in a more complex manner discussed below. Until 20 April 1967 when the 554th Engineer Battalion assumed responsibility for base construction projects at Cu Chi, this headquarters had the responsibility for construction (including the basic cantonment and special facilities such as hospitals, communications buildings, et cetera) in the base camps at Cu Chi, Tay Ninh, and Dau Tieng.

(1) Base development planning: At all locations this task was accomplished by a base development planning board answering to the tactical commander of the major unit housed.

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(a) Cu Chi: Throughout the period in which this headquarters was responsible for projects at Cu Chi, it sent a representative to the planning board. However, the implementation of decisions of that body and day to day responsibility for base camp development rested with the Division Engineer of the 15th Infantry Division assisted by the staff of the assistant Division Engineer's office. Within the framework of the overall cantonment directive (CD 66-252DC-79), therefore, the priorities of construction were assigned and much of the overall site planning and allocation was accomplished by the DE. On certain specific projects within the base camp such as the 12th Evacuation Hospital (CD 66-176DC-79) the site was allocated by the planning board and all subsequent planning was done by this headquarters. This arrangement worked reasonably well with a few minor duplications of effort between the ADE office and the S-2/3 section of this headquarters. For example, the ADE office was responsible to the planning board for preparation of an overall drainage plan for Cu Chi. This headquarters was responsible to the 79th Engineer Group for the same task. When both superior agencies decided to require upgraded drainage plans in March 1967, due dates and submittal procedures were independently fixed in such a way that two separate plans had to be prepared.

(b) Tay Ninh: This headquarters also sent a representative to the planning board at Tay Ninh. The day to day implementation of the plan of this body rested with the brigade engineer of the 196th Light Infantry Brigade until 15 April 1967. As at Cu Chi, within the framework of the overall cantonment directive (CD 66-171DC-79) the priorities of construction and most site planning and allocation were accomplished by the brigade engineer. When the main body of the brigade moved out of Tay Ninh, these functions were assumed by this headquarters, specifically by the S-3 officer. The result has been a streamlined management picture since plan preparation, implementation, construction scheduling, and the work itself are the responsibility of the same headquarters.

(c) Dau Tieng: A planning board also sits at Dau Tieng. The Company Commander of Company C is the principal agent of this body for day to day plan implementation. As at Tay Ninh during the latter part of this quarter, management is streamlined since site allocation and priorities of construction are determined within the cantonment directive (CD 12-203-01-3-63) and the base plan by the same man.

(d) Responsibility for the preparation of construction program reviews for submittal to USARV for base camps at Tay Ninh and Dau Tieng rests with this headquarters as of the end of this quarter.

(2) Projects in progress are managed through daily operations meeting and the weekly and monthly construction progress reports. Management indicators used over longer periods to indicate the relative efficiency of units include the equipment density profiles and the experience report section of the monthly design and construction progress report required of all non-divisional engineer units in Vietnam. The latter indicates average man-hour expenditures on units of measure of various kinds of engineer tasks.

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(3) Management of projects in progress constructed on a self help basis such as troop billets and EM clubs is implemented by strict control of materials issue. Within the guidelines of project directives and base plans using units are issued materials for these projects. To insure that various requirements are met, no materials are issued until the units prepare an acceptable area plan. The surveyors and draftsmen of the S-2/3 section assist in this. Once the plan is approved, construction proceeds under the supervision of an engineer NCO.

(4) To meet the requirements of the base construction management it has been necessary to have six to eight draftsmen and three teams of surveyors available during the period. 79th Engineer Group has attached the team of surveyors currently working at Dau Tieng. Qualified replacements are assigned as draftsmen to augment those provided in the TO&E.

b. Indigenous personnel: Hire of Vietnamese workers is managed through a Battalion civilian personnel officer. The recon officer handles this as an extra duty. Responsibility for supervision of this activity was moved from the S-2 officer to the S-1 officer during this quarter. The Battalion employed 212 permanent-hire and 314 daily-hire indigenous personnel daily at the beginning of the period. With successive cutbacks this number was reduced to 10 permanent and 314 daily-hire personnel at the end of the period.

### 9. INSPECTOR GENERAL

There were no formal complaints to the battalion acting Inspector General. There was one complaint to the 196th Brigade IG by SP5 Herbert Poss. This complaint was prompted by his being without assignment instructions one day before DEROS, with this headquarters unable to get approval from higher headquarters to cut his orders. This problem has been common throughout the quarter with an average of 2 or 3 cases per month.

### 10. INFORMATION

The battalion received newspapers from 25th Infantry Division, 79th Engineer Group, USMACV(P), and USARV. In addition the battalion acquired through Special Services enough television sets and radios so that all companies could have one each. The Pacific Stars and Stripes is distributed through 79th Engineer Group and brought to us by our courier daily, normally two days past publication date. We receive Special Services back kits and magazines monthly in sufficient quantity, at least 25 paperback books and 10 magazines per month. We also receive about 4 copies per company of the Army Times weekly.

### 11. CIVIC AFFAIRS

a. During this quarter this headquarters requested real estate near Cu Chi and Tay Ninh for laterite pits and adjacent to Route 26 east of Tay Ninh for an artillery fire support base. Initial contact with representatives of Vietnamese province chiefs was made in each case to establish area boundaries, and requests were forwarded to USARV for formal approval.

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b. Assistance was given to the Vietnamese Ministry of Public Works road repair effort near Trang Bang on Route 1 during April. Five hundred cubic yards of laterite were hauled from Cu Chi and 300 cubic meters of crushed rock were hauled from the quarry at Nui a Den to a stockpile area in Trang Bang. Local road repair crews then hauled the materials to the job site. Trucks from Company A, the 67th Engineer Company (DT), and the 65th Engineer Battalion were employed in the haul.

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### Section 2, Part I, Observations (Lessons Learned)

1. Personnel: none
2. Operations:

#### Airfield Repair

##### ITEM - Rutting of turn-arounds

DISCUSSION - During the rainy season, heavy traffic on the turn-around area of a runway causes minor rutting which can become a major problem if not repaired immediately.

OBSERVATION - Ruts of this size can be filled with sand or small gravel covered with a layer of sand. The area should be compacted, sprayed with RC-3, and recompact. If the area is not treated with RC-3, it merely becomes rutted again. Many of the rutting problems are due to inadequate drainage of the turn-around area in the initial design.

#### Base Construction

##### ITEM - Drainage System

DISCUSSION - The original drainage system for a base camp can be adequate until additional units open up areas which could over load the system.

OBSERVATION - Culvert sizes should be computed accurately, but then over-designed to allow for possible increase of the drainage area. This is especially true of culverts placed in the lower elevation areas of a base camp, for they bear the burden of any additional drainage requirements.

##### ITEM - Deterioration of culvert headwalls

DISCUSSION - Sandbag headwalls, common in Vietnam, do not stand up under heavy vehicular traffic. They are invariably driven over when drivers cut corners.

OBSERVATION - Crossings must be wide enough to allow for vehicles to turn easily and command emphasis must be placed on training drivers to stay out of ditches and off headwalls. "U" type metal pickets driven along the outer side of headwalls about one foot apart will protect the walls against the occasional hit.

##### ITEM - Over crowning of roads

DISCUSSION - Over crowning causes a danger of vehicles sliding into ditches and each other after heavy rains or application of dust palliative.

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OBSERVATION - Over crowning should be avoided by the construction of roads with standard slopes.

ITEM - Increasing concrete production with batch plants

DISCUSSION - Batch plant concrete production increases the speed of cantonment construction, especially where self help troop labor is used. When a prefabrication yard is used to issue building parts for construction, concrete placement cannot keep up with the vertical construction rate.

OBSERVATION - A batch plant utilizing three 16S mixers was put into operation. The beds of 5-ton dump trucks were coated with a protective petroleum product and used to haul the mix. Each truck hauled a six mix load. Units receiving the concrete pads supplied labor for operating the batch plant. In this way concrete placement was kept ahead of vertical construction. It is recognized that some separation occurred in the mix; however, a rapid rate of progress was desirable to finish mess halls prior to the beginning of the monsoon season, and some sacrifice in strength was acceptable.

ITEM - Placement of Concrete

DISCUSSION - If a batch plant is used utilizing 5-ton dumps as transportation, large quantities of concrete (up to 20 cubic yards per hour) must be worked. Hot, dry weather hampers this operation.

OBSERVATION - An obvious solution is to work at night when temperature conditions are more favorable. The rate of placing the concrete then becomes merely a function of hauling capabilities. If the finished pad is flooded in mid-morning, proper curing is insured.

ITEM - Concrete placement in dry season

DISCUSSION - During the dry season, placing concrete on a dry laterite base results in immediate loss of water from the mix into the laterite. This may result in a mix that is too dry to set up properly or in one which rapidly becomes unworkable.

OBSERVATION - Laterite pads should be thoroughly wetted down or covered with an impermeable membrane prior to placing concrete on top of them. This is especially true during the dry season.

ITEM - End gables on tropical buildings

DISCUSSION - For purposes of appearance and function end gables, usually with a louvered ventilation vent, must be included in construction plans.

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OBSERVATION - Much time is saved by prefabricating the gables on the ground and then treating them as an ordinary rafter. The greater precision thus possible enhances the appearance of the gables.

### POL Facilities

ITEM - POL Area Layout

DISCUSSION - The initial planning of a POL point usually considers only the relative positions of diesel, aviation gas, etc.

OBSERVATION - In the event of fire, it becomes apparent that initial planning of a POL area should include spacing of POL such that fire fighting equipment can be effectively utilized. Fences should not be brought too close to the POL bladders or its access road. Since dozers can usually isolate a fire in a POL yard by building a berm around the area, bladders, barrels, and tankers should be located with this in mind.

### Clearing Operations

ITEM - Rome plow - dozer clearing teams

DISCUSSION - In clearing operations two dozers should accompany each rome plow if windrowing is to be accomplished. One dozer cannot keep up with one plow. Where there are too few dozers, the second phase of the clearing is slowed and security requirements are increased.

OBSERVATION - If equipment resources are limited an excessive number of dozers should not be converted to rome plows. A two to one ratio of dozers to plows should be the minimum.

ITEM - D-7E maintenance

DISCUSSION - D-7E dozers converted to rome plows used in heavy foliage run very hot. This causes cracked heads and then turbo-charger failure.

OBSERVATION - Air compressors with clearing teams can be used to blow debris from radiators but in many instances it is still necessary to operate dozers in first gear to avoid over-heating. Thermostats can be removed to increase the cooling capacity.

ITEM - Burning foliage

DISCUSSION - Burning is an effective clearing method. Flame tracks are not readily available and green foliage will not burn effectively by itself.

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OBSERVATION - An effective method of spreading enough diesel fuel to ignite a large area is the use of truck mounted diesel pods and dispensing pumps. With the nozzle removed from the pump the foliage can be sprayed and ignited with a hand torch.

### 3. Training and organization:

#### Utilization of a dump truck company

ITEM - Construction rather than support missions assigned to the dump truck company

DISCUSSION: Road construction missions in the Tay Ninh area were large enough to require almost all of the 67th Engineer Company (DT) during Operation Junction City. Therefore the officers and non-commissioned officers were readily available to provide engineer supervision.

OBSERVATION - The dump truck company was given specific road construction missions itself rather than missions supporting line companies. Their hauling effort was augmented by earth moving equipment as required. The officers provided effective engineer supervision and the company's performance was outstanding.

### 4. Intelligence: none

### 5. Logistics:

#### Air lift operations

ITEM - Airlift of engineer equipment

DISCUSSION - When airlifting equipment such as graders, scoop loaders, and 5-ton trucks by C-130 aircraft, several loading factors are involved.

OBSERVATION - Weight limitations imposed by aircraft or airfield must be determined in advance. When loading a scoop loader, it is not necessary to remove the counterweight. The fuel level on old equipment cannot be higher than the bottom of the strainer screen in the tank. Fuel drums must be drained to a comparable level. All equipment should have tie-down shackles. Requirements for POL should be estimated in advance, with the POL being delivered before equipment arrival. This eliminates down time due to lack of POL.

#### Repair parts resupply

ITEM - Short circuiting of the repair parts supply system

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DISCUSSION - The existing parts supply system is adequate only if using and support units use the system properly. Units short circuit the system by trying to obtain parts from other units if their PLL does not include it or if the part is not on hand. Shortages should be covered with requisitions for the required part. If the part is subsequently picked up from another unit it should also be picked up on the demand data cards.

OBSERVATION - PLL is based upon demands and the higher the requirement, the higher the authorized stock. Likewise the ASL of support units depends upon demand. If support units have no demand their ASL will drop; unless using units build up demands, repair part availability will decrease.

### Section 2, Part II, Recommendations

#### 1. Personnel:

##### Transportation for replacements

ITEM - Transportation for rotating and replacement personnel and those on R and R to and from the Long Binh area, a distance of 170 miles by armed convey, takes 2 days under ideal conditions.

DISCUSSION - The battalion is required to furnish transportation for its personnel to and from Long Binh. This is not an efficient utilization of organic vehicles and the requirements should be reconsidered.

RECOMMENDATION - That the following methods of personnel transportation be considered (There is a requirement for definite responsibilities to be established for this support):

- a. Four individuals or less by helicopters, a greater number by fixed wing aircraft.
- b. A regular scheduled armored passenger bus or other non-organizational vehicle.

#### 2. Operations:

##### Facility requests

ITEM - Requests for additional facilities

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DISCUSSION - These requests are often made by local commanders of various sized units to this headquarters since it is a unit in the engineer chain of command. This is especially true when unit commanders of the battalion act as brigade engineers or when staff officers act as agents of base planning boards for plan implementation. Problems often occur in reconciling this role with that of constructing projects as specified in directives promulgated through engineer channels. Although project requesting procedures have been carefully described to this headquarters by 79th Engineer Group, they sometimes seem ponderous to the local commander with an immediate need.

RECOMMENDATION - Effort be committed to education of commanders on procedures for requesting new MCA construction.

### Project Management

ITEM - Design responsibility for construction projects

DISCUSSION - Construction projects assigned to this battalion include responsibility for design. Projects have included electrical, water and sewage distribution systems; long clear spans; central air conditioning systems; and high water towers. The resources available to this battalion are inadequate to meet the design responsibilities of three cantonments in progress at once and much less so for sophisticated projects. This headquarters has requested design assistance on several occasions; however, consultants have come and gone on a completely unscheduled basis with no prior announcement of their visits and with but a few hours to spend each time.

RECOMMENDATION - Talent available at higher headquarters such as officers with civil engineering backgrounds and civilian consultants should be made available to battalions for design assistance. To be useful consultants must be available on a regular basis for a preannounced amount of time necessary for detailed discussions of specific problems. Sophisticated projects should be entirely designed specifically for each location.

### D-7E Dozer

ITEM - Need for protection from stumps and falling debris in clearing operations.

DISCUSSION - The operator and various parts of the dozer are subject to hits and blows by limbs and falling debris in jungle clearing operations. This often bends the air intake stack and may break the "L" shaped manifold between the turbo-charger and the exhaust stack. The winch control levers on the left side of the operators seat are easily snared by branches and vines causing the winch to be put into operation without the operators knowledge. The two grease fittings on the underside of the final drive are of an odd size and easily broken off if the dozer passes over a high stump. When converted to rock plows, the D-7E hydraulic lines to the blade are too long.

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RECOMMENDATION - Protective frames are necessary over the top of dozers as well as some plows to protect the operators and the air intake and exhaust stacks. The winch control levers should be relocated or protected to prevent engagement without the operators knowledge. The grease fittings should be of standard design and relocated or protected in some way. Units should be permitted to fabricate the protective frames and install them where necessary. Shorter hydraulic lines should be used when dozers are converted to some plows.

### Water pumps in water purification units

ITEM - Barnes model 52109 gas driven water pump

DISCUSSION - These pumps have an extremely high deadline rate. The impeller at the pump housing cracks easily. This is caused by the back pressure developed when a valve is placed on a discharge line. In addition, the rear seals in the pumps wear out quickly and the volute housing plate cracks easily and has a tendency to leak.

RECOMMENDATION - Redesign is necessary on the pump to make future models more durable.

### Starlight Scopes

ITEM - Night vision device

DISCUSSION - The requirement exists for this battalion to man perimeter bunkers at the base camp and while on combat support missions. We have no organic night vision devices and must therefore rely on illumination flares. Flares are not practical since the noise warns the enemy in advance and the illumination ruins night vision.

RECOMMENDATION - Recommend two (2) each starlight scopes be issued to each line company and the headquarters company.

3. Training and organization:

### Communications

ITEM - Messenger/courier service to higher headquarters and out lying organic units.

DISCUSSION - The round trip road distance from this Headquarters (Tay Ninh) to its next higher headquarters (Long Binh) is 170 miles, which must be traversed by armed convoy. Also we have companies stationed at Cu Chi and Dau Tieng and must coordinate frequently with 25th Infantry Division and their 65th Engineer Battalion at Cu Chi. We have no organic aircraft, the authorized aviation section having been deleted by general order when the battalion was deployed to Vietnam, and courier service is limited. There

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is a daily requirement for an unclassified courier and at least twice weekly for a classified courier. In addition with the normal disposition of several platoons in isolated locations at the same time that one or more companies are in the field on operational support missions, lack of aircraft seriously hampers command and operational effectiveness of the battalion.

### RECOMMENDATION --

a. Organic aviation be authorized to both Group and Battalion Headquarters for the purpose of command, courier runs, and coordinating activities for all engineer operations.

b. Minimum of twice daily courier flights originating at Tay Ninh, with stops at Dau Tieng and Cu Chi; ending at Long Binh and return by same route. Suggest flights be arranged to allow maximum ground time at each location for passengers who disembark on one flight and reembar on next flight.

### ITEM - Insufficient amount of radios

DISCUSSION - Under TO&E 5-350 the Battalion is not authorized a sufficient number of AN/VRC-46 and AN/VRC-47 radios. With the units occupying separate base camps and forward CP's additional net control stations are required, thereby requiring additional radios. When a company is in support of a task force it is necessary for them to monitor the tactical unit, their headquarters, and maintain their unit net continuously. Then is also a need for the Battalion to maintain an administrative net. The problem becomes more critical when the 362d Engineer Company (LE) is committed on combat support missions. They are equipped with AM radios while the Battalion is equipped with FM radios.

### RECOMMENDATION --

a. Reorganizing the Battalion under TO&E 5-35E would eliminate the problem.

b. Augmentate the Battalion with the following amount of radios:

(1) 362d Engineer Company (LE)

(a) 2 ea - AN/VRC-47

(b) 3 ea - AN/VRC-46

(2) Headquarters

(a) 2 ea - AN/VRC-47

(b) 3 ea - AN/VRC-46

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(3) Each line company

(a) 1 ea - AN/VRC-47

(b) 4 ea - AN/VRC-46 or AN/VRC-125

ITEM - Communication between rome ploys during jungle clearing operations.

DISCUSSION - During jungle clearing operations using rome ploys it is necessary to communicate with each plow to coordinate the clearing and to keep the operator informed of the current situation. Hand, arm, and voice signals in dense jungle have proven inadequate.

RECOMMENDATION - Equip each rome plow with a radio and paint larger numbers on the cabs. This would enable the team leader to have continuous contact with each plow at all times. Ploys could also be controlled from an overhead helicopter.

4. Intelligence: none

5. Logistics:

### Unit Movement

ITEM - Receipt of red circle TAT

DISCUSSION - Company D shipped items it felt to be essential immediately after arrival in country as red circle TAT in accordance with instructions from transportation personnel at Fort Bliss and with the understanding that it would be available immediately after leaving the ship. Items included were flak vests, crew-served weapons and mess equipment. Red circle TAT for the company arrived five days after arrival at Cu Chi while organizational equipment arrived seven days prior to the arrival of the main body.

RECOMMENDATION - Continuing effort at refining movement schedules is necessary.

6. Other

### Mail

ITEM - Delay in mail for newly arrived units

DISCUSSION - Incoming units experience long delays in receiving initial mail deliveries.

## FOR OFFICIAL USE ONLY

EBB-3

15 May 1967

SUBJECT: Operational Report -- Lessons Learned (RCS CSFOR-65) for Quarterly  
Period Ending 30 April 1967

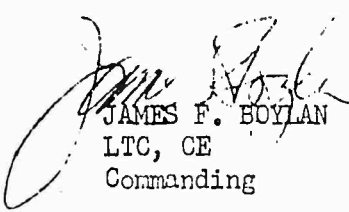
RECOMMENDATION - The policy of not giving units their APO numbers prior to departure should be reconsidered. Even though companies may move often once in country, knowing the APO of the initial higher headquarters would shorten delays of the first deliveries.

ITEM - There was no incoming mail for 3 companies (B/D/362) stationed at Tay Ninh for 2 week period in mid April

DISCUSSION - The stoppage of mail delivery was caused by movement from Tay Ninh of APO 96256 which was the 196th Bde APO.

RECOMMENDATION - Each base camp has its own organic APO which would remain until base camp is closed down. This APO should not belong to a tactical organization but to LOG Command. The tactical units APO could use same facilities, but with their own APO designation, as is case at Ou Chi with APO 96353/96225.

1 Incl  
Organizational Chart

  
JAMES F. BOYLAN  
LTC, CE  
Commanding

### DISTRIBUTION

2-CINCUSARPAC, ATTN: GP-OT (AIRMAIL)  
3-CG, USARV, ATTN: AVC-DH (COURIER)  
5-CG, USAECV(P), ATTN: AVCC-P&O (COURIER)  
30-CO, 79th Engr Gp (Const) (COURIER)  
1-File

EGE-CO (15 May 67)

1st Ind

SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65) for Quarterly  
Period Ending 30 April 1967

DA, HEADQUARTERS 79TH ENGINEER GROUP, APO 96491, 9 June 1967

TO: Commanding General, U. S. Army Engineer Command Vietnam (Prov),  
APO 96491

The quarterly Operational Report-Lessons Learned submitted by the 588th Engineer Battalion has been reviewed and is considered adequate. The following comments pertain to the recommendations of the battalion commander in Section 2, Part II of the report.

a. Paragraph 1, Transportation of Replacements. Transportation for incoming replacements to Tay Ninh is provided by this headquarters, normally by fixed-wing aircraft from Tan Son Nhut Airbase. Providing air transportation or armored bus transportation between Tay Ninh and the Saigon/Long Binh area is beyond the capabilities of this headquarters. It is believed that the concentration of troops at most base camps would warrant the establishment of regularly scheduled passenger flights between the base camps and the Saigon/Long Binh area. Bookings on these flights could be made by local units for replacements and R&R personnel.

b. Paragraph 2, Facility Requests. This headquarters published a letter on 26 May 1967 to all subordinate units with information copies to all supported commands. The letter cited current directives and outlined the procedures to be followed by user units for the submission of requests for new MCA construction.

c. Paragraph 2, Project Management. It is recognized that most directives issued by this headquarters are of the "design and construct" type. The greater majority of these merely involve site adaption of standard designs, best done by the local unit. In several instances, more sophisticated design missions have been given the battalions and consultant services provided. This headquarters is assuming an ever-increasing design responsibility for sophisticated engineer design. Rather than providing consultants from higher headquarters on a regularly scheduled basis, this headquarters considers it more efficient and feasible to provide engineering consultation on an as-requested basis. This is no change from current policy.

d. Paragraph 2, D-7E Dozer, Water Pumps in Water Purification Units. A letter requesting submission of EIR's in accordance with TM 38-750 on these items is being sent to the 588th Engineer Battalion.

e. Paragraph 2, Starlight Scopes. Concur with the recommendation of the battalion commander. Follow-up action through supply channels will be taken by this headquarters.



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f. Paragraph 3, Communications. The ability to provide for regularly scheduled courier flights between the base camps is beyond the capabilities of this headquarters. This headquarters has, on numerous occasions, stressed the necessity for organic aviation. A request for the temporary loan of radios for light equipment companies was forwarded by this headquarters on 2 May 1967. The desirability of reorganization of all combat battalions to the E-series TOE has been made known in numerous pieces of correspondence from this headquarters to U. S. Army Engineer Command Vietnam (Prov). The desirability of radio communications with Rome plows is recognized, but due to the current shortage of radio equipment in the command it is not considered of sufficient merit to justify radio augmentation.

g. Paragraph 5, Unit Movement. The problem outlined in this paragraph has long been recognized by this command. It has been a policy of the 79th Engineer Group to inform all incoming units of the delay in the arrival of red circle TAT cargo and have given them guidance for the preparation of their loading plans.

h. Paragraph 6, Mail. The confusion existing in APO numbers of incoming units has been the subject of concern by this unit. The recommendation of the battalion commander is the same as the recommendation made by this headquarters in paragraph 2a of the forwarding indorsement of the 86th Engineer Battalion ORLL for the period ending 31 January 1967. Concur in the recommendation for the establishment of base camp APO's separate from tactical unit APO's.

1 Incl  
nc

S/ Walter C Gelini  
T/ WALTER C. GELINI  
Colonel, CE  
Commanding

Copies furnished:  
ACSFOR DA (dupe)  
CO, 588th Engineer Battalion

AVCC-P&O (15 May 67)

CPT Hubbard/ccb/BNH 487

SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65) for Quarterly  
Period Ending 30 April 1967

HEADQUARTERS, UNITED STATES ARMY ENGINEER COMMAND  
VIETNAM (PROV), APO 96491

TO: Commanding General, United States Army, Vietnam, ATTN: AVHGC-DH,  
APO 96307

1. The subject report, submitted by the 588th Engineer Battalion (Cbt), has been reviewed by this headquarters and is considered adequate.

2. The recommendations and comments made by the submitting and Indorsing commanders have been reviewed and this headquarters concurs, subject to the following added comments:

a. Section 2, Part I, paragraph 2, page 24 and paragraph c, 1st Indorsement, Project Management. It is the practice of this headquarters to have design work accomplished at the lowest level capable of performing the work. Sophisticated projects are normally designed by this headquarters or by civilian AE Firms contracted through OICC. Design assistance is furnished to subordinate units upon their request for aid on specific projects.

b. Section 2, Part I, paragraph 2, pages 24 and 25, D7E Dozer. All units were instructed to fabricate cab guards for D7E tractors. Recommended design of guard was sent to all units 12 March 1967.

c. Section 2, Part II, paragraph 3, page 25, and paragraph f, 1st Indorsement, Communication.

(1) Department of the Army policy presented in Confidential message 763149 DTG 032019 May 1966, deleted aviation paragraphs from non-divisional combat support and combat service support organizations prior to their deployment to RVN. Organic assets presently on hand and recognized by DA have been pooled and located where the best possible support can be furnished to satisfy essential requirements.

(2) The critical shortage in organic aviation assets is identified in each ORLL and other appropriate media dispatched from and through this headquarters. Until the DA policy, cited above, is reviewed and action taken to restore TOE authorized assets to Engineer elements a shortage of organic aviation will exist. Beyond that which can be made available from the meager organic assets, aviation support for the Engineer battalions and other engineer elements will have to come from in-country general support aviation.

d. Section 2, Part II, paragraph 2, page 26, Insufficient amount of Radios. The 588th Engineer Battalion (Cbt) is being reorganized under TOE 5-35E.

AVCC-P&O (15 May 67)

2d Ind

SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65) for Quarterly  
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e. Section 2, Part II, paragraph 6, pages 27 and 28, and paragraph  
h, 1st Indorsement, Mail and Incoming Mail. Operational plans change, thus  
precluding assigning units to a specific area well in advance of arrival date.

FOR THE COMMANDER:

RICHARD J. DUCOTE  
Colonel, CE  
Chief of Staff

AVHGC-DST (15 May 67) 3d Ind  
SUBJECT: Operational Report-Lessons Learned for the Period Ending  
30 April 1967 (RCS CSFOR-65) (U)

HEADQUARTERS, UNITED STATES ARMY VIETNAM, APO San Francisco 96375

TO: Commander in Chief, United States Army, Pacific, ATTN: GPCP-OT,  
APO 96558

1. This headquarters has reviewed the Operational Report-Lessons Learned for the period ending 30 April 1967 from Headquarters, 588th Engineer Battalion (C) (A) as indorsed.

2. Pertinent comments follow:

a. Reference item concerning Starlight scores, page 25 and paragraph e, 1st Indorsement: A MTOE is required, IAW AR 310-31, to change unit equipment authorizations. Headquarters, Engineer Command has been notified.

b. Reference item concerning insufficient amount of radios, pages 26 and paragraph f, 1st Indorsement: Concur with comments of paragraph 2c, 2d Indorsement. No further action is considered necessary.

c. Reference item concerning project management, page 24; paragraph c, 1st Indorsement and paragraph 2a, 2d Indorsement: Concur with paragraph c, 1st Indorsement and paragraph 2a, 2nd Indorsement. Current policy of furnishing consulting engineering support on an as requested basis appears to be the more efficient and feasible in view of diverse requirements.

d. Reference item concerning delay in mail for newly arrived units, paragraph 6, section II, part II; paragraph 6, 1st Indorsement and paragraph 2e, 2d Indorsement: Nonconcur. It is Defense Department policy for the movement of units to RVN to be classified; therefore, since APO locations are not classified, the release of an APO number prior to the departure of a unit from CONUS would be a violation of security. AR 220-10 plus a DA message to the appropriate installation commander provides adequate guidance relative this subject. If this guidance is followed, mail will be waiting and ready for delivery to a unit upon arrival in RVN. A letter has been dispatched to the Commanding Officer, 588th Engineer Battalion, outlining the procedures prescribed, by above references, for a unit to follow during POM processing to insure timely receipt of mail.

e. Reference item concerning no incoming mail for 3 companies (B/D/362) stationed at Tay Ninh for 2 week period in mid April, paragraph 6, part II and paragraph h, 1st Indorsement: Nonconcur. Resources are not available to this command to establish base camp APOs. It has always been the policy of this headquarters that when possible, APOs assigned to

AVHGC-DST (15 May 67)

3d Ind

SUBJECT: Operational Report-Lessons Learned for the Period Ending  
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tactical units of brigade and divisional size will serve only organic units. These brigades and divisions also operate a Mail Address Only APO to serve the non brigade/divisional units. If the brigade/division relocates, the Mail Address Only APO remains to serve those units that do not relocate. The case cited in paragraph 6, section 2, part II, illustrates this policy, i.e., the 25th Infantry Division operates Mail Address Only APO 96353 to serve non divisional units. This policy was not in effect for the Tay Ninh area when the 196th Light Infantry Brigade was relocated. A base camp APO (96216) was established at Tay Ninh on 11 April 1967. The 196th Light Infantry APO (96256) was relocated on 15 April 1967. A letter has been dispatched to the Commanding Officer, 588th Engineer Battalion, advising him of USARV policy for providing postal service.

f. Reference item concerning transportation of R&R personnel, paragraph 1, page 23 and paragraph a, 1st Indorsement: Concur. The Air Force operates Flights # 107 and #113 on a daily basis between Tan Son Nhut and Tay Ninh. These flights should be sufficient to accomodate all traffic to the Tay Ninh area.

g. Reference item concerning transportation of replacements, paragraph 1, page 23, and paragraph a, 1st Indorsement: Concur. It should not be necessary for organic transportation to be utilized in movement of replacement and R&R personnel. The situation referred to is purportedly caused by lack of in-country Air Force passenger channel to Tay Ninh. The Air Force operates two C-123 flights from Tan Son Nhut Air Base to Tay Ninh which can be utilized by personnel of the 588th Engineer Battalion. The 79th Engineer Group has been given this information.

FOR THE COMMANDER:



STANLEY E. SCHULTZ

Major AGC

Asst Adjutant General

1 Incl  
nc

35  
GPOP-DT (15 May 67)

4th Ind

SUBJECT: Operational Report for the Quarterly Period Ending 30 April 1967  
from HQ, 588th Engineer Battalion (C)(A) (RCS CSFOR-65)

HQ, US ARMY, PACIFIC, APO San Francisco 96558

1. OCT 1967

TO: Assistant Chief of Staff for Force Development, Department of the  
Army, Washington, D. C. 20310

This headquarters has evaluated subject report and forwarding  
indorsements and concurs in the report as indorsed.

FOR THE COMMANDER IN CHIEF:



1 Incl  
nc

J. SNYDER  
CPT, AGC  
Asst AG

4-5

ORGANIZATIONAL CHART  
588th Engineer Battalion (C) (A)

